CLAIMS

What is claimed is:

1. A laser processing apparatus, comprising:

a laser oscillator for emitting laser light;

an fθ lens positioned relative to the laser oscillator for converging the emitted laser light onto a workpiece; and

a wavelength selector interposed between the laser oscillator and the fθ lens for separating a light ray having a specified wavelength out of the laser light.

2. The laser processing apparatus according to Claim 1, wherein the wavelength selector includes a prism disposed along a light axis of the laser light, and a spatial filter having a focusing lens and a shield for passing only a light ray having a specified wavelength.

3. The laser processing apparatus according to Claim 2, wherein the laser light is transmitted through the prism a plurality of times.

4. The laser processing apparatus according to Claim 3, wherein the wavelength selector includes a pair of reflection mirrors ~~on either side of the prism~~, for causing the laser light to pass through the prism more than once.

5. The laser processing apparatus according to Claim 1, wherein the wavelength selector includes a plurality of prisms disposed along a light axis of the laser light, and a spatial filter having a focusing lens and a shield for passing only a light ray having a specified wavelength.

6. The laser processing apparatus according to Claim 5, wherein the plurality of prisms are disposed between a pair of opposed reflection mirrors.

7. The laser processing apparatus according to Claim 1, wherein the wavelength selector includes a diffraction grating disposed along a light axis of the laser light, and a shield for passing only a light ray having a specified wavelength.

8. The laser processing apparatus according to Claim 1, wherein the wavelength selector includes a wave plate disposed along a light axis of the laser light for polarizing the laser light into different phase shifts in accordance with wavelengths, and a polarizer for passing only a light ray polarized into a phase shift corresponding to a specified wavelength.

9. A laser processing apparatus, comprising:

a laser oscillator for emitting laser light;

an fθ lens positioned relative to the laser oscillator for converging the emitted laser light onto a workpiece;

a scanning member for guiding the laser light into the fθ lens in a scanning manner; and

a wavelength selector interposed between the laser oscillator and the fθ lens for separating a light ray having a specified wavelength from the laser light.

10. The laser processing apparatus according to Claim 9, wherein the scanning member is a galvanometer.

11. A laser processing method comprising:

emitting laser light from a laser oscillator;

separating a light ray having a specified wavelength out of the laser light by a wavelength selector; and

out of the laser light is effected through transmitting the laser light a plurality of times through the prism using the pair of reflection mirrors.